

ABSTRACT

Titanium aquo-oxo chloride, and preparation method thereof

The invention relates to a titanium aquo-oxo chloride and to a method for its preparation.

The compound is in the form of crystals and has the following composition by weight: 26.91% Ti; 21.36% Cl; and 4.41% H, which corresponds to the formula $[\text{Ti}_8\text{O}_{12}(\text{H}_2\text{O})_{24}]\text{Cl}_8 \cdot \text{HCl} \cdot 7\text{H}_2\text{O}$.

The method of preparation consists in hydrolyzing TiOCl_2 either in an atmosphere whose moisture content is maintained between 50 and 60%, or by an alkali metal carbonate A_2CO_3 , in order to obtain a titanium aquo-oxo chloride.

The compound is useful as a semiconductor element of a photovoltaic cell or as a photocatalyst in air or water purification treatments.